

TN501.01 Scope.

TN501.01(b)(3) Non-NRCS employees who are not Federal employees and are not licensed to practice engineering in Tennessee and who are specifically assigned to carry out NRCS work under the direct supervision and control of a NRCS employee(s) may be assigned engineering job approval authority.

(i) Assigning engineering job approval authority to a district employee by NRCS does not provide any liability protection for the district nor does it provide any protection to the individual district employee. The federal government cannot provide legal protection for a district employee based solely on the fact that the employee was operating under a job approval authority established by NRCS. However, if a tort claim is brought against a district employee arising out of district work, the fact that the employee was following NRCS conservation practice standards and had engineering job approval from NRCS for the level of work that was performed may be helpful in the defense of the suit, since NRCS is the acknowledged leader in the field of conservation engineering.

In that regard, it is appropriate to consider the application of the Federal Tort Claims Act, as amended, 28 U.S.C. 2671 et seq. to district employees. This Act provides that the exclusive remedy for person injured by federal employees acting within the scope of their employment is an action against the federal government. It effectively immunizes federal employees from tort liability.

Under certain circumstances, the protection of the Act can be extended to district employees when they are carrying out NRCS work. The definition of “Employee of the Government” for purposes of the Torts Claims Act includes “...persons acting on behalf of a federal agency in an official capacity, temporarily or permanently in the service of the United States, whether with or without compensation.” Since district employees often assist as “loaned employees” in carrying out NRCS programs, they may be considered federal employees for purposes of the Torts Claims Act. Whether a person is considered a federal employee for this purpose is a question of fact to be determined in each case. However, at a minimum, the district employee must be specifically assigned to NRCS to carry out NRCS work under the direct supervision and control of employees of the Service. If he or she is determined to be a federal employee for the purposes of the Act, he or she will be protected by the Act and may be provided representation by the federal government.

It has been determined that in those cases where a district agrees to provide a product or service to NRCS and the district uses its employee under its supervision and control to furnish the agreed-to service or product, that employee will not be considered a federal employee for purposes of the Tort Claims Act. The status of the employee must be determined on a case-by-case basis. The determination that a person is acting as an NRCS employee is not made by the NRCS state office, but by the Office of General Council (OGC) on a case-by-case basis when a tort claim has been filed or other action.

Part 501 - AUTHORIZATIONS

TN501.01(b)(3)(ii)

(ii) Non-NRCS employees who are not Federal employees and are not licensed to practice engineering in Tennessee must adhere to Tennessee Code Annotated, Title 62, Chapter 2.

(iii) Due to liability issues and Tennessee laws regarding the practice of engineering, the delegating engineer shall confer with the State Conservation Engineer (SCE) prior to delegating engineering job approval to non-NRCS employees.

(iv) Before engineering job approval can be delegated to non-NRCS employees, a memorandum of understanding (MOU) or other written agreement between the employee's employer and NRCS will be required. The MOU or other written agreement must specifically state the employee is assigned to NRCS to carry out NRCS work under the direct supervision and control of the employee(s) of NRCS. A copy of the MOU shall be attached to the engineering job approval authority form. Exhibit TN1, Sample Memorandum of Understanding, may be used to delegate engineering job approval to non-NRCS employees.

(iv) Exhibit TN1 – Sample Memorandum of Understanding (Page 1 of 2)

Memorandum of Understanding
Between the

_____ (AGENCY)

And the
United States Department of Agriculture
Natural Resources Conservation Service

This Memorandum of Understanding establishes the foundation for an enduring cooperative working relationship between the _____ (AGENCY) and the USDA Natural Resources Conservation Service (NRCS).

Whereas the _____ (AGENCY) and the NRCS have the common objective of helping bring about the wise conservation of land, water and related resources, they have determined it mutually beneficial to enter into this cooperative working relationship on this _____ day of _____.

A. What the _____ (AGENCY) will do.

1. Assign _____ (PERSON), to the NRCS under the direct technical control and supervision of the NRCS District Conservationist for the purpose of carrying out NRCS work upon request.

B. What the NRCS will do:

1. Provide engineering job approval authority to _____ (PERSON) for carrying out NRCS work while under the direct technical control and supervision of the NRCS District Conservationist.
2. Provide services of qualified personnel and logistical support necessary to carry out such work.
3. NRCS services will be provided in accordance with national NRCS standards and specifications as defined in the Field Office Technical Guide and other related technical standards used by NRCS.
4. Request the assignment of _____ (PERSON) for the purpose of carrying out NRCS work.
5. Provide direct technical supervision and control of _____ (PERSON) while carrying out NRCS work.

C. It is further understood:

1. Either party may arrange or provide as much agreed such additional services, equipment, facilities, materials, and arrangements that may be required to achieve the common objectives.
2. The relationship described herein is that of cooperating agencies, except that while carrying out NRCS work, _____ (PERSON), shall be considered a person acting on behalf of a federal agency for the purposes of the Federal Tort Claims Act, as amended, 28 U.S.C. 2671 et seq.
3. Any working relationship between _____ (AGENCY) and the NRCS will be that of cooperating parties to achieve a common objective and not one of procurement of services.
4. This MOU shall become effective when signed by both parties and shall continue for the term of employment of _____ (PERSON).

Part 501 - AUTHORIZATIONS

TN501.01(b)(3)(iv)

Exhibit TN1 Continued – Sample Memorandum of Understanding (Page 2 of 2)

5. This MOU may be terminated by either party giving five (5) days written notice to the other party.
6. This MOU will automatically terminate in the event _____ (PERSON) is no longer employed by the _____ (AGENCY).
7. All programs with support from this MOU shall be in compliance with the non-discrimination provisions contained in the Titles VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1989 (Public Law 100-259); and other non-discrimination statutes; namely, section 504 of the Rehabilitation Act of 1973, title IX of the Education Amendment of 1972, and the Age Discrimination Act of 1975. They will also be in accordance with the regulations of the Secretary of Agriculture (7 CFR-15, Subparts A and B), which provide that no person in the United States shall on the grounds of race, color, national origin, age, sex, religion, marital status, or handicapped be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial and/or technical assistance from the Department of Agriculture or any agency thereof.

This Memorandum of Understanding was approved by the _____ (AGENCY) on _____.

_____ (AGENCY)

USDA-NATURAL RESOURCES
CONSERVATION SERVICE

By: _____
(Signature)

By: _____
(Signature)

Title: _____

Title: State Conservationist

TN501-12(4)

(210-V-NEM, Amend. TN15, Jan. 2005)

TN501.03 Compliance of engineering work with laws and regulations.

(c) Procedures for signing and sealing engineering plans.

(1) For works designed by NRCS and non-NRCS employees working as partners with NRCS.

(i) When specifically required by state law, engineering plans prepared by an NRCS employee or a non-NRCS employee working as a partner (i.e., district employees) shall be sealed by a registered professional NRCS engineer with appropriate engineering job approval authority.

(ii) Engineering plans sealed by the engineer must be personally prepared by the engineer or prepared under the engineer's responsible supervision, direction, and control and within the engineer's job approval authority. See Tennessee Code Annotated, Title 62, Chapter 2-306 and the laws and rules of the Tennessee State Board of Architectural and Engineering Examiners, 0120-2-.08.

(iii) It is the responsibility of the NRCS or non-NRCS employee preparing the design to determine if the engineering plans require sealing. When sealing is required, the person designing the works of improvement must be a Tennessee registered professional engineer or arrange for the sealing of the plans by the supervising engineer. If neither the person performing the design or supervising engineer is licensed in Tennessee and/or does not have the appropriate engineering job approval authority, arrangements for sealing the engineering documents must be coordinated with the State Conservation Engineer (SCE) prior to beginning the design.

(2) The SCE and NRCS engineers registered as Professional Engineers in Tennessee are authorized to seal engineering jobs within their delegated engineering job approval authority for plans required to be sent to regulatory agencies for review, approval, or the granting of permits. NRCS personnel shall not act as agents for cooperators in securing permits.

(3) If a cooperating local organization for which NRCS is providing technical assistance is required by law to have plans for public works prepared under direct supervision of a registered professional engineer, the SCE or other NRCS engineers registered as Professional Engineers in Tennessee are authorized to seal engineering jobs within their delegated engineering job approval authority.

TN501.04 Engineering job approval authority.

(b) State engineering job approval authority (Classes I-V).

(2) The procedure for approval of engineering work in Tennessee shall be as follows:

Part 501 - AUTHORIZATIONS

TN501.04(b)(2)(i)

(i) Inventory and evaluation (I&E), design, and construction of engineering practices must be approved by a person with appropriate engineering job approval authority before alternatives are presented, design is finalized, and construction (installation) is begun. Engineering designs and installation are to provide for all aspects of technical quality as stated in NEM 501.02.

(ii) Engineering job review and approval shall be provided by the person closest to the job with technical responsibility for that location. Where personnel with appropriate engineering job approval authority are not available in the field office, the engineer assigned to provide assistance to the field office shall review and approve the job. If higher engineering job approval authority is needed, the job shall be submitted to the Area Engineer (AE) for review and approval.

(iii) Jobs above the Area Engineer's engineering job approval authority shall have the State Conservation Engineer's concurrence during the I&E (planning) stage prior to commitment of NRCS resources.

(iv) Any NRCS employee or non-NRCS employee operating under the supervision of an NRCS employee may survey, design, and prepare the engineering plans for jobs requiring approval at any level of engineering job classification. However, final approval of the plans must be made in accordance with delegated engineering job approval authority. Before committing resources, employees shall consult with the person who will review and approve the engineering plan.

(v) All design calculations and plans must be checked prior to construction and initialed by the person checking the plans. The person checking the plans is responsible for determining that all calculations, dimensions, lines, notes, drawing details, and specifications are correct.

(vi) The employee approving the engineering design shall check the designs, drawings, and specifications and be satisfied that (1) adequate field investigations have been made; (2) the plans conform to NRCS standards and policy; (3) the layout is suitable; and (4) installations, if made in accordance with the plans and specifications, will function properly. Each sheet of the engineering plans shall be signed and dated by the person approving the plans.

(vii) Approval of engineering work within the limits of the engineering job approval authority places the full responsibility on the individual for planning, design, and construction of the practice. Any engineering practice may involve complexities, such as geology or hydrology, with which the employee may be unfamiliar. Employees shall request assistance when complexities are encountered which exceed their expertise.

(viii) All works of improvement prepared by NRCS for formal contracting shall be reviewed and approved by the SCE.

TN501-12(6)

(210-V-NEM, Amend. TN15, Jan. 2005)

TN501.04(b)(5)(i)

(3) Each employee responsible for any phase of engineering work shall be delegated engineering job approval authority. Non-NRCS employees may be delegated engineering job approval authority as stated in NEM TN501.01(b)(3). The engineering job approval authority applies to engineering inventory and evaluations, designs, and construction. Individual engineering job approval authority shall be delegated according to the employee's training, experience, and demonstrated competence. Engineers responsible for delegating engineering job approval authority should have reviewed one or more recent designs of each practice prepared (within the last three years) by the employee being considered. Major factors of the practice to be considered in determining the employee's engineering job approval authority are: (1) applicability; (2) accuracy; (3) completeness, including note keeping and record keeping; (4) technical adequacy; and (5) construction applicability.

(i) The Engineering Job Approval Authority, TN-ENG-39 (see TN501.09, Exhibit TN2) establishes job type (practice), controlling factors, units, and job approval size (job class) for Tennessee. The engineering job approval authorities apply to all engineering work in all NRCS programs.

(ii) Form TN-ENG-39 shall be prepared by the responsible engineer for each employee who performs engineering work in the state. The employee's administrative supervisor shall concur in the engineering job approval authority and issue a copy to the employee.

(iii) Only those practices for which job approval is being given to an individual need to be listed on form TN-ENG-39. Maximum engineering job approval limits for I&E, design, and construction will be entered in the spaces provided. All spaces will contain an entry. Use a "0" when no engineering job approval authority is assigned.

(iv) Copies of the individual's engineering job approval chart shall be maintained by the employee, the employee's administrative supervisor, and by the engineer delegating the individual's engineering job approval authority.

(4) Professional engineers registered in Tennessee and working under NRCS technical supervision will be delegated engineering job approval authority according to the employee's training, experience, and demonstrated competence.

(5) Delegating engineering job approval authority.

(i) Engineering job approval authority for field personnel (except engineers in grades GS-11 and above) shall be delegated based on a technical determination by the AE and concurred in by the employee's supervisor. Maximum engineering job approval limits cannot be higher than the recommending engineer's engineering job approval authority. The engineering job approval authority of an individual transferred to a different administrative area shall be canceled, and a new engineering job approval authority shall be delegated based on the technical determination of the AE and concurred in by the employee's new administrative supervisor.

TN501-12(7)

Part 501 - AUTHORIZATIONS

TN501.04(b)(5)(ii)

(ii) Engineering job approval authority for all engineers in grades GS-11 and above shall be delegated based on a technical determination by the SCE and concurred in by the employee's administrative supervisor.

(iii) The responsible engineer shall review the employee's engineering job approval authority at the frequency of not less than that stated in NEM 501.04(b)(5). The review shall include a spot check of the employee's engineering work.

(iv) If a review of an employee's engineering work reveals a need to revise (increase or decrease) an employee's engineering job approval authority, the reasons shall be documented in writing to the employee and the employee's administrative supervisor. The responsible engineer shall send a revised delegated engineering job approval authority to the employee's administrative supervisor. The employee's administrative supervisor shall concur in and reissue in writing to the employee the revised engineering job approval authority.

(c) State Conservation Engineer's engineering job approval (classes VI through VIII).

3. Engineering design assistance, review, and processing for engineering Job Classes VI through VIII will be coordinated by the SCE. The SCE will obtain the required expertise needed from the National Technology Support Centers (NTSC's), National Design, Construction and Soil Mechanics Center (NDCSMC), or other states as appropriate. The State Conservation Engineer (SCE) is responsible for:

(i) Securing assistance and coordinating activities with NRCS specialists outside of Tennessee.

(ii) Providing and coordinating data needed by technical specialists assigned to provide technical assistance to Tennessee.

(iii) Approving the final engineering plans and specifications.

(iv) Installation.

TN501.05 Engineering job review.

(a) (3) Design reviews.

(ii) Job Classes I through V. Design reviews will be performed as needed for engineering job Classes I through V. Non-routine and complex jobs (regardless of engineering job class) shall receive a design review by others prior to final approval by the designer. Routine jobs that are within the delegated approval authority of the designer do not necessarily require a design review. Where needed to assure technical quality, the employee approving the job is responsible for obtaining design reviews.

TN501-12(8)

(210-V-NEM, Amend. TN15, Jan. 2005)

SUBPART A – REVIEW AND APPROVAL

TN501.05(b)(5)(iii)

(iii) The AE will be the reviewer for designs approved by NRCS employees, volunteers, and others in their assigned area. The SCE or someone acting for the SCE will be the reviewer for jobs Classes I through V approved by the AE.

(b) Post reviews.

(2) The AE will be responsible for conducting post reviews (spot checks) of Classes I through V engineering jobs in their administrative area in conformance with General Manual 450, Part 407. The Area Conservationist (AC) shall provide copies of engineering spot check reports to the SCE.

The SCE or his/her representative will conduct an annual post review of representative Classes I through V engineering jobs that were approved by the AE and other engineers grade GS-11 and above. The AE and engineers grade GS-11 and above shall submit to the SCE a list of all practices approved during the previous fiscal year by December 31. The list shall include the practice name and code number, extent of practice (feet, acres, etc.), engineering job class, location (county), and landowner name.

The number and type of jobs reviewed will be determined by the SCE. Post reviews will include a variety of job types. All similar jobs will receive a post review a minimum of once in three years. The SCE will submit a copy of the post review report to the State Conservationist and the AC.

TN501-12(9)

Part 501 - AUTHORIZATIONS

THIS PAGE INTENTIONALLY LEFT BLANK

SUBPART A – REVIEW AND APPROVAL

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation Service

TN-ENG-39
Page 1 of 9
Jan. 2005

ENGINEERING JOB APPROVAL AUTHORITY ^{1/}

Name: _____ Title: _____ Grade: _____

Delegated by: _____ Title: _____ Date: _____
(Responsible Engineer)

Concurred By: _____ Title: _____ Date: _____
(Line Officer)

This form will be reviewed with the employee annually and revised as needed. If no significant changes are made, the following table will be used to document that the review has been made by the appropriate engineering personnel.

| Reviewed by | Title | Comments | Date: |
|-------------|-------|----------|-------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

DEFINITIONS OF MAXIMUM APPROVAL LIMITS COLUMN

Inventory and Evaluation (I&E) – On-site review of an exploratory nature and preparation of sound engineering alternative solutions of sufficient intensity for the landowner to make treatment decisions. I&E's may require assistance from engineers with higher engineering job approval authority for large or complex jobs.

Design - Designing and checking all aspects of supporting data, drawings, and specifications to ensure that the planned practice will meet the purpose for which it is installed. Also includes determining and setting any specific requirements for the site conditions.

Construction – Includes survey construction layout, inspections of construction materials, and construction inspection including performing required tests to determine that the job meets the requirements of the plans and specifications.

Standard designs noted under practice name are those engineering drawings and design criteria that have been approved and distributed or otherwise approved by the State Conservation Engineer. Standard designs are developed to function satisfactorily based on a set of design parameters. The person responsible for design and approval shall verify that the standard design is adaptable to the site and the design limitations are not exceeded.

^{1/} Approval of engineering work within the limits of the engineering job approval authority places the full responsibility on the individual for planning, design, and construction of the practice. Any engineering practice may involve complexities, such as geology or hydrology, with which the employee may be unfamiliar. Employees shall request assistance when complexities are encountered which exceed their expertise. The employee approving the engineering design shall check the designs, drawings, and specifications and be satisfied that (1) adequate field investigations have been made; (2) the plans conform to NRCS standards and policy; (3) the layout is suitable; and (4) installations, if constructed in accordance with the plans and specifications, will function properly. Each sheet of the engineering plans shall be signed and dated by the person approving the plans. See National Engineering Manual for additional information on engineering job approval authority.

TN501-12(11)

PART 501 – AUTHORIZATIONS

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation Service

TN-ENG-39
Page 2 of 9
Jan. 2005

| Name: _____ | | | | Title: _____ | | | | | Grade: _____ | | |
|-------------|---|--|---------|--------------|--------|--------|---------|-------|----------------------|--------|---------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| -- | Any Practice | Hazard Potential as defined in 503 NEM | --- | Low | Low | Low | Low | Low. | | | |
| 560 | Access Road | Surface Treatment | kind | Un-surfaced | Gravel | Gravel | Asphalt | All | | | |
| | | Length | feet | 2,000 | 5,000 | 10,000 | 20,000 | All | | | |
| | | Grade | % | 3 | 5 | 8 | 10 | All | | | |
| | | Culvert | | | | | | | | | |
| | | Pipe, I.D. | feet | 2 | 3 | 4 | 5 | 6 | | | |
| | | Fill Height Over Top of Pipe | feet | 3 | 5 | 8 | 12 | All | | | |
| | | Other Water Control Structures | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| 702 | Agrichemical Handling Facility | Tank Storage Volume for Chemicals | gal | None | None | 500 | 1,000 | 5,000 | | | |
| 316 | Animal Mortality Facility | | | | | | | | | | |
| | <u>Normal Mortality</u> | | | | | | | | | | |
| | Composters | Capacity | cu. ft. | 1,000 | 2,000 | 3000 | 5000 | All | | | |
| | Freezers | Capacity | cu. ft. | None | None | All | All | All | | | |
| | Incinerator | Capacity | lbs. | None | None | All | All | All | | | |
| | <u>Catastrophic Mortality Events</u> | | | | | | | | | | |
| | Burial Pit | Capacity | cu. ft. | None | None | All | All | All | | | |
| 365 | Anaerobic Digester – Ambient Temperature | | | | | | | | | | |
| | | | | | | | | | | | |
| 366 | Anaerobic Digester – Controlled Temperature | | | | | | | | | | |
| | | | | | | | | | | | |

TN501-12(12)

(210-V-NEM, Amend. TN15, Jan. 2005)

SUBPART A – REVIEW AND APPROVAL

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation ServiceTN-ENG-39
Page 3 of 9
Jan. 2005

| Name: _____ | | | | Title: _____ | | | | | Grade: _____ | | |
|-------------|--|----------------------------|-----------|--------------|-----------|-----------|-----------|-----------|----------------------|-----------|-----------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| 575 | Animal Trails and Walkways | Area | acres | 0.5 | 2 | 5 | 10 | All | | | |
| 450 | Anionic Polyacrylamide (PAM) Erosion Control | Area | acres | 1 | 20 | 40 | 80 | All | | | |
| 397 | Aquaculture Ponds | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | Surface Area | | acres | 1 | 2 | 5 | 10 | All | | | |
| 310 | Bedding | Area | acres | 10 | 40 | 160 | 320 | All | | | |
| 584 | Channel Stabilization | Design Capacity | cfs | 10 | 100 | 300 | 400 | 500 | | | |
| | | Design Velocity | fps | 2 | 2.5 | 3 | 5 | 10 | | | |
| 326 | Clearing & Snagging | Length of Reach | feet | 500 | 1,500 | 2,500 | All | All | | | |
| 360 | Closure of Waste Impoundments | Surface Area | acres | 0.5 | 1.0 | 3.0 | 10 | All | | | |
| 317 | Composting Facility (Std. Design) | Design Capacity | cu. ft. | 1,000 | 2,000 | 3,000 | 5,000 | All | | | |
| 656 | Constructed Wetland | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | Area | | acres | 0.5 | 1 | 5 | 20 | All | | | |
| 402 | Dam | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | Storage | | ac-ft | 1 | 10 | 50 | 100 | All | | | |
| 348 | Dam, Diversion | Stream Flow (25 yr. freq.) | cfs | 100 | 500 | 1,000 | 1,500 | 2,000 | | | |
| | | Flow Diverted | cfs | 10 | 50 | 100 | 150 | 200 | | | |
| | | Height of Drop | feet | 2 | 3 | 5 | 7 | 8 | | | |
| 356 | Dike | Water Height | feet | 1 | 2 | 3 | 5 | 12 | | | |
| | | Hazard | class | III | III | III | III | III | | | |
| 362 | Diversion | Drainage Area | acres | 5 | 20 | 40 | 100 | All | | | |
| 554 | Drainage, Water Management | Area | acres | 40 | 80 | 160 | 640 | All | | | |
| 432 | Dry Hydrant | Capacity | gpm | 500 | 1,000 | 2,000 | All | All | | | |
| 393 | Filter Strip | Surface Area | acres | 0.5 | 1 | 5 | All | All | | | |

TN501-12(13)

PART 501 – AUTHORIZATIONS

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation Service

TN-ENG-39
Page 4 of 9
Jan. 2005

| Name: _____ | | | | Title: _____ | | | | | Grade: _____ | | |
|-------------|---|----------------------------|-------------|--------------|--------|------------------|-------|-----|----------------------|--------|---------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| 398 | Fish Raceway or Tank | Length | feet | 500 | 1,000 | 2,000 | 3,000 | All | | | |
| | | Capacity | cfs | 1 | 3 | 5 | 10 | All | | | |
| 410 | Grade Stabilization Structure | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| 412 | Grassed Waterway | Design Capacity | cfs | 25 | 50 | 100 | 250 | All | | | |
| 561 | Heavy Use Area Protection | Area Treated | acres | 0.25 | 0.5 | 1.0 | All | All | | | |
| | | Surface Treatment | kind | Gravel | Gravel | Asphalt/Concrete | All | All | | | |
| 320 | Irrigation Canal or Lateral | Design Capacity | cfs | 10 | 25 | 100 | 300 | 500 | | | |
| 388 | Irrigation Field Ditch | Design Capacity | cfs | 1 | 5 | 10 | 25 | All | | | |
| 464 | Irrigation Land Leveling | Design Area | acres | 40 | 80 | 160 | 640 | All | | | |
| 552 | Irrigation Regulating Reservoir (Std. Design) | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| | | Storage | ac-ft | 5 | 10 | 20 | 40 | All | | | |
| 436 | Irrigation Storage Reservoir | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| | | Storage Capacity | ac-ft | 5 | 10 | 20 | 40 | All | | | |
| 441 | Irrigation System, Microirrigation | System Area | acres | 10 | 40 | 80 | 160 | All | | | |
| | | Slope | % | 0.5 | 2 | 5 | All | All | | | |
| 442 | Irrigation System, Sprinkler | System Area | acres | 10 | 40 | 80 | 160 | All | | | |
| | | Slope | % | 2 | 5 | 10 | All | All | | | |
| 443 | Irrigation System, Surface and Subsurface | | | | | | | | | | |
| | | <u>All surface systems</u> | System Area | acres | 20 | 40 | 80 | 160 | All | | |
| | | <u>Subsurface systems</u> | | | | | | | | | |
| | | Crown Flood | System Area | acres | 20 | 80 | 160 | 320 | All | | |
| | | Flow Through | System Area | acres | 20 | 80 | 160 | 320 | All | | |
| | | Fully Enclosed | System Area | acres | 20 | 40 | 80 | 320 | All | | |
| | | Open Channels | System Area | acres | 20 | 80 | 160 | 320 | All | | |
| | | Underground Conduits | System Area | acres | 10 | 20 | 80 | 160 | All | | |

TN501-12(14)

(210-V-NEM, Amend. TN15, Jan. 2005)

SUBPART A – REVIEW AND APPROVAL

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation ServiceTN-ENG-39
Page 5 of 9
Jan. 2005

| Name: _____ | | Title: _____ | | | | | | | Grade: _____ | | |
|-------------|---|---|-----------|-----------|-----------|-----------|-----------|-----------|----------------------|-----------|-----------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| 447 | Irrigation System, Tailwater Recovery | Pump-back Capacity | gpm | 500 | 1,000 | 2,500 | 5,000 | All | | | |
| | | Area Served | acres | 20 | 80 | 160 | 320 | All | | | |
| 543 | Land Reconstruction, Abandoned Mined Land | Area | acres | 0.5 | 10 | 40 | 160 | All | | | |
| 428 | Irrigation Water Conveyance, Ditch & Canal Lining | Design Capacity | cfs | 2 | 5 | 50 | 100 | 200 | | | |
| 430 | Irrigation Water Conveyance, Pipeline | Pipeline Capacity \geq 50 psi | gpm | 300 | 600 | 1,200 | 2,000 | 3,500 | | | |
| | | Pipeline Capacity \leq 50 psi | gpm | 300 | 600 | 1,200 | 2,000 | 5,000 | | | |
| 449 | Irrigation Water Management | Area Served | acres | 10 | 40 | 80 | 320 | All | | | |
| 460 | Land Clearing | Area Cleared | acres | 5 | 10 | 40 | All | All | | | |
| 455 | Land Reclamation, Toxic Discharge Control | Flow | cfs | None | None | None | None | None | | | |
| 466 | Land Smoothing | Area Smoothed | acres | 40 | 80 | 160 | 320 | All | | | |
| 468 | Lined Waterway or Outlet | Design Capacity | cfs | 10 | 50 | 100 | 300 | All | | | |
| 634 | Manure Transfer | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| 500 | Obstruction Removal | Hazard to Public During Removal | | | | | | | | | |
| | | None | acres | 0.5 | 1 | 3 | All | All | | | |
| | | Moderate to High | acres | None | None | None | None | None | | | |
| 582 | Open Channel | Design Capacity (Subcritical TNow Only) | cfs | 50 | 100 | 300 | 500 | 1,000 | | | |
| | | Design Velocity | fps | 2 | 2 | 3 | 5 | 10 | | | |
| 516 | Pipeline | Operating Pressure | psi. | 60 | 80 | 125 | 200 | 300 | | | |
| | | Inside Diameter | in. | 2 | 3 | 4 | 6 | 8 | | | |

PART 501 – AUTHORIZATIONS

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation Service

TN-ENG-39
Page 6 of 9
Jan. 2005

| Name: _____ | | | | Title: _____ | | | | | Grade: _____ | | |
|-------------|---|--------------------------------|---------|--------------|------------|--------|--------|--------|----------------------|--------|---------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| | Embankment | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| | Excavated | Water Surface Area | acres | 0.25 | 0.50 | 1.0 | All | All | | | |
| 521 | Pond Sealing or Lining | Area Lined | acres | 0.25 | 0.5 | 2 | 5 | All | | | |
| 533 | Pumping Plant | <u>Axial Flow Pump</u> | | | | | | | | | |
| | | Design Capacity | gpm | 1,000 | 2,500 | 10,000 | 30,000 | 50,000 | | | |
| | | Static Head | feet | 10 | 10 | 10 | 12 | 15 | | | |
| | | <u>Mixed Flow Pump</u> | | | | | | | | | |
| | | Designed Capacity | gpm | 1,000 | 5,000 | 10,000 | 30,000 | 50,000 | | | |
| | | Head | feet | 10 | 10 | 15 | 30 | 40 | | | |
| | | <u>Centrifugal Pump</u> | | | | | | | | | |
| | | Design Capacity | gpm | 300 | 500 | 2,000 | 2,500 | 3,500 | | | |
| | | Static Head | feet | 75 | 150 | 300 | 350 | 350 | | | |
| | | <u>Turbine Pump</u> | | | | | | | | | |
| | | Design Capacity | gpm | 300 | 500 | 1,500 | 2,500 | 3,500 | | | |
| | | Static Head | feet | 75 | 150 | 300 | 350 | 500 | | | |
| 566 | Recreation Land Grading & Area Graded Shaping | | acres | 4 | 10 | 40 | 160 | All | | | |
| 568 | Recreation Trail and Walkway | Length | feet | 1,000 | 5,000 | 10,000 | All | All | | | |
| | | Surface Treatment | kind | No Treat. | Wood Chips | Gravel | All | All | | | |
| 558 | Roof Runoff Structure | Roof Area | sq. ft. | 2,000 | 10,000 | All | All | All | | | |
| 350 | Sediment Basin | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| 572 | Spoil Spreading | Area Receiving Spoil | acres | 0.25 | 0.50 | 3.0 | All | All | | | |
| 578 | Stream Crossing | Drainage Area | Acre | 500 | 1,000 | 2,000 | 5,000 | All | | | |
| | | Height of Bank | Feet | 4 | 6 | 10 | 14 | All | | | |
| | | Culvert Size (inside diameter) | Inches | 18 | 24 | 48 | 60 | 72 | | | |

TN501-12(16)

(210-V-NEM, Amend. TN15, Jan. 2005)

SUBPART A – REVIEW AND APPROVAL

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation ServiceTN-ENG-39
Page 7 of 9
Jan. 2005

| Name: _____ | | Title: _____ | | Grade: _____ | | | | | | | |
|-------------|--------------------------------------|-----------------------------------|------------------|--------------|------|------|-------|-------|----------------------|--------|---------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| 580 | Streambank and Shoreline Protection | Shorelines, Revetments, Bulkheads | | | | | | | | | |
| | | Water Height Above Shoreline | feet | None | None | None | None | 3 | | | |
| | | Bank Full Capacity | cfs | None | None | 200 | 500 | 5,000 | | | |
| | | Bank Full Velocity | fps | None | None | 3 | 5 | 10 | | | |
| 587 | Structure for Water Control | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |
| | | Design Capacity | cfs | 10 | 50 | 100 | 300 | All | | | |
| 606 | Subsurface Drain | Design Area | acres | 10 | 40 | 160 | 640 | All | | | |
| | | Diameter | in. | 4 | 8 | 12 | 24 | All | | | |
| 607 | Surface Drainage, Field Ditch | Drainage Area | acres | 2 | 5 | 10 | All | All | | | |
| 608 | Surface Drainage, Main or Lateral | Design Capacity | cfs | 10 | 50 | 100 | 300 | 1,000 | | | |
| | | Design Velocity | fps | 1.5 | 2.0 | 3.0 | 5 | 10 | | | |
| 600 | Terrace | Area of System | acres | 25 | 50 | 100 | All | All | | | |
| 620 | Underground Outlet | Pipe Diameter | in. | 6 | 8 | 10 | 18 | All | | | |
| 367 | Waste Facility Cover | Area of Cover | acres | None | None | None | All | All | | | |
| 313 | Waste Storage Facility (Std. Design) | <u>Structure</u> | | | | | | | | | |
| | | <u>Wall Height</u> | | | | | | | | | |
| | | Above Ground | feet | 0 | 3 | 6 | 10 | 16 | | | |
| | | Below Ground | feet | 0 | 3 | 5 | 8 | 8 | | | |
| | | <u>Tank Span</u> | | | | | | | | | |
| | | Above Ground | feet | 0 | 0 | 0 | All | All | | | |
| | | Below Ground | feet | 0 | 0 | 0 | 14 | 16 | | | |
| | | <u>Storage Capacity</u> | cu. ft. (thous.) | 0 | 0 | 0 | 1,000 | 2,000 | | | |
| | | <u>Roof Clear Span</u> | feet | None | None | 30 | 40 | All | | | |
| | | <u>Impoundment</u> | | | | | | | | | |
| | | Storage Volume | ac. ft. | 5 | 10 | 40 | 100 | All | | | |
| | | Effective Height of Dam | feet | 5 | 10 | 15 | 25 | 35 | | | |

TN501-12(17)

PART 501 – AUTHORIZATIONS

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation Service

TN-ENG-39
Page 8 of 9
Jan. 2005

| Name: _____ | | | Title: _____ | | | | | | Grade: _____ | | |
|-------------|----------------------------------|----------------------------------|---------------------|-----------|-----------|-----------|-----------|-----------|----------------------|-----------|-----------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| 359 | Waste Treatment Lagoon | Aerobic-Surface Area | acres | 0.25 | 0.50 | 1.0 | 8 | 25 | | | |
| | | Anaerobic Volume | cu. ft. (thous.) | 50 | 100 | 500 | 1,000 | 2,000 | | | |
| | | Effective Height of Dam | feet | 5 | 5 | 15 | 25 | 35 | | | |
| 635 | Wastewater Treatment Strip | Area | acres | 1 | 2 | 5 | 10 | All | | | |
| 633 | Waste Utilization | Area | acres | 20 | 40 | 160 | All | All | | | |
| 638 | Water and Sediment Control Basin | Drainage Area | acres | 5 | 10 | 20 | All | All | | | |
| | | Fill Height | feet | 5 | 10 | 12 | 15 | All | | | |
| 614 | Watering Facility | Capacity | gal. | 100 | 200 | 1,000 | All | All | | | |
| 642 | Water Well | Diameter | in. | 4 | 6 | 8 | 16 | All | | | |
| 351 | Well Decommissioning | Diameter | in. | 4 | 6 | 8 | All | All | | | |
| 755 | Well Plugging | Diameter | in. | 4 | 6 | 8 | 10 | All | | | |
| 658 | Wetland Creation | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | | Area | acres | 0.25 | 0.50 | 5 | 20 | All | | | |
| 659 | Wetland Enhancement | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | | Area | acres | 10 | 20 | 40 | All | All | | | |
| 657 | Wetland Restoration | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> | <u>2/</u> |
| | | Area | acres | 10 | 20 | 40 | All | All | | | |
| 648 | Wildlife Watering Facility | Surface Area | acres | 0.25 | 0.50 | 1 | All | All | | | |
| | | Capacity of Fabricated Structure | gal | 100 | 200 | 1000 | All | All | | | |

TN501-12(18)

(210-V-NEM, Amend. TN15, Jan. 2005)

SUBPART A – REVIEW AND APPROVAL

TN501.08

TN501.08 Exhibit TN2 - Engineering job approval authority.

U.S. Department of Agriculture
Natural resources Conservation ServiceTN-ENG-39
Page 8 of 9
Jan. 2005

| Name: _____ | | | Title: _____ | | | | | Grade: _____ | | | |
|-------------|-----------------------------------|--|--------------------|-----------|-------|-------|-------|--------------|----------------------|--------|---------|
| Prac. Code | Practice Name | Controlling Factors | Units | Job Class | | | | | Max. Approval Limits | | |
| | | | | I | II | III | IV | V | I&E | Design | Constr. |
| --- | ^{2/} Dams and Structures | Hazard Class | --- | low | low | low | low | low | low | low | low |
| | | Drainage Area | sq. mi. | 0.25 | 0.50 | 1.0 | 5.0 | 20.0 | | | |
| | | ^{3/} Effective Height | feet | 10 | 15 | 25 | 30 | 35 | | | |
| | | Embankment over active fault | --- | None | None | None | None | None | | | |
| | | <u>Open Channel Spillways</u> | | | | | | | | | |
| | | slope > 0.5% | acres | 40 | 80 | 640 | 960 | 12,800 | | | |
| | | slope < 0.5% | sq. mi. | 0.25 | 1 | 5 | 10 | 20 | | | |
| | | Principal Spillway | | | | | | | | | |
| | | Prefabricated Conduit (Single) | | | | | | | | | |
| | | Corrugated Metal | | | | | | | | | |
| | | Inside Diameter | in. | 12 | 24 | 36 | 42 | 48 | | | |
| | | ^{4/} Total Head | feet | 10 | 15 | 25 | 30 | All | | | |
| | | <u>Concrete</u> | | | | | | | | | |
| | | Inside Diameter | in. | None | 12 | 24 | 36 | 48 | | | |
| | | ^{4/} Total Head | feet | None | 10 | 20 | 30 | All | | | |
| | | <u>HDPE</u> | | | | | | | | | |
| | | Inside Diameter | in. | 12 | 24 | 36 | 42 | 48 | | | |
| | | ^{4/} Total Head | feet | 3 | 5 | 10 | 15 | All | | | |
| | | <u>Plastic (PVC)</u> | | | | | | | | | |
| | | Inside Diameter | in. | 8 | 12 | 15 | 18 | 48 | | | |
| | | ^{4/} Total Head | feet | 5 | 10 | 15 | 20 | All | | | |
| | | Storage x Height | ac-ft ² | 500 | 1,000 | 2,000 | 3,000 | 3,000 | | | |
| | | <u>Straight Drop Spillways (Std Design)</u> | | | | | | | | | |
| | | Net Drop | feet | None | 4 | 6 | 8 | 8 | | | |
| | | Weir Capacity | cfs | None | 100 | 300 | 400 | 500 | | | |
| | | <u>Box Inlet Drop Spillways Open or to Conduit</u> | | | | | | | | | |
| | | Net Drop | feet | None | 3 | 4 | 5 | 6 | | | |
| | | Weir Capacity | cfs | None | 100 | 300 | 400 | 500 | | | |
| | | <u>Chutes (Std. Design)</u> | | | | | | | | | |
| | | Net Drop | feet | None | 4 | 8 | 10 | 12 | | | |
| | | Weir Capacity | cfs | None | 50 | 200 | 250 | 300 | | | |

^{2/} Dams & Structures - All with relatively impervious cutoff, simple foundation needs, and standard or proven designs not exceeding the limits of effective height and total head set forth above in the above table.^{3/} Effective height of dam is the difference in elevation in feet between the lowest open channel auxiliary spillway crest and the lowest point in the original profile along the centerline of the dam. If there is no open channel auxiliary spillway, the top of the dam becomes the upper limit.^{4/} Total head is measured from crest of auxiliary spillway to elevation at the top of pipe outlet.

TN501-12(19)

PART 501 – AUTHORIZATIONS

THIS PAGE INTENTIONALLY LEFT BLANK